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David I. Maurstad,

Mitigation Division Director, Federal  
Emergency Management Agency, Department  
of Homeland Security.

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## DEPARTMENT OF COMMERCE

### National Oceanic and Atmospheric Administration

#### 50 CFR Parts 222 and 223

[Docket No. 050315074-6117-02; I.D.  
022405B]

RIN 0648-AS92

#### Endangered and Threatened Wildlife; Sea Turtle Conservation

**AGENCY:** National Marine Fisheries  
Service (NMFS), National Oceanic and  
Atmospheric Administration (NOAA),  
Commerce.

**ACTION:** Final rule.

**SUMMARY:** NMFS issues this final rule to require sea turtle conservation measures for all sea scallop dredge vessels fishing south of 41° 9.0' N. latitude from May 1 through November 30 each year. All vessels with a sea scallop dredge and that are required to have a Federal Atlantic sea scallop fishery permit, regardless of dredge size or vessel permit category, must modify their dredge(s) when fishing south of 41° 9.0' N. latitude, from the shoreline to the outer boundary of the Exclusive Economic Zone (EEZ). This action is necessary to help reduce mortality and injury to endangered and threatened sea turtles in scallop dredge gear and to conserve sea turtles listed under the Endangered Species Act (ESA). Any incidental take of threatened sea turtles in sea scallop dredge gear in compliance with this gear modification requirement and all other applicable requirements will be exempted on the ESA's prohibition against takes.

**DATES:** Effective September 25, 2006.

**ADDRESSES:** Copies of the  
Environmental Assessment (EA) and  
Regulatory Impact Review/Final  
Regulatory Flexibility Analysis (RIR/  
FRFA) prepared for this final rule may  
be obtained by writing to Ellen Keane,  
NMFS, Northeast Region, One  
Blackburn Drive, Gloucester, MA 01930.

**FOR FURTHER INFORMATION CONTACT:**  
Ellen Keane (ph. 978-281-9300 x6526,  
fax 978-281-9394, email  
ellen.keane@noaa.gov) or Barbara  
Schroeder (ph. 301-713-1401, fax 301-

713-0376, email  
barbara.schroeder@noaa.gov).

#### SUPPLEMENTARY INFORMATION:

##### Background

All sea turtles that occur in U.S. waters are listed as either endangered or threatened under the Endangered Species Act of 1973 (ESA). The Kemp's ridley (*Lepidochelys kempii*), leatherback (*Dermochelys coriacea*), and hawksbill (*Eretmochelys imbricata*) sea turtles are listed as endangered. The loggerhead (*Caretta caretta*) and green (*Chelonia mydas*) sea turtles are listed as threatened, except for breeding populations of green turtles in Florida and on the Pacific coast of Mexico that are listed as endangered. Due to the inability to distinguish between these populations of green turtles away from the nesting beach, NMFS considers green sea turtles endangered wherever they occur in U.S. waters. Kemp's ridley, hawksbill, loggerhead, and green sea turtles are hard-shelled sea turtles. The incidental take, both lethal and non-lethal, of loggerhead and unidentified hard-shelled sea turtles as a result of scallop dredging has been documented in the sea scallop dredge fishery. In addition, non-lethal takes of a green and a Kemp's ridley sea turtle have been documented in this fishery.

This action, taken under the authority of section 4(d) of the ESA, is necessary to provide for the conservation of threatened loggerhead sea turtles, and will have ancillary benefits for Kemp's ridley and green sea turtles, which have been observed taken in the sea scallop dredge fishery, albeit to a lesser extent than loggerheads. Under the ESA and its implementing regulations, taking endangered sea turtles - even incidentally - is prohibited. The incidental take of endangered species may only legally be exempted by an incidental take statement or an incidental take permit issued pursuant to section 7 or 10 the ESA, respectively. Existing sea turtle conservation regulations at 50 CFR 223.206(d) exempt fishing activities and scientific research from the prohibition on takes of threatened species under certain conditions. Any incidental take of threatened loggerhead sea turtles in sea scallop dredge gear in compliance with this gear modification requirement and other applicable requirements is exempted from the prohibition against takes. Additional background information for this action is included in the preamble to the proposed rule (70 FR 30660, May 27, 2005).

Based on the available information, NMFS has determined that the use of a

dredge modified with a chain mat will prevent most, if not all, captures of sea turtles in the dredge bag as well as any ensuing injuries as a result of being caught in the dredge (e.g., crushing in the dredge bag, crushing on deck, etc.). In addition, it is possible that this action may reduce drowning due to forced submergence following an interaction with sea scallop dredge gear on the seafloor. Sea turtles observed captured in the scallop dredge fishery in 2003 ranged in size from 55 107 cm (21.6 - 42.1 inches) from notch to tip (curved carapace length). When converted to straight carapace length (SCL) based on the formula for loggerheads provided in Teas (1993), the size range of the loggerhead sea turtles observed captured in the fishery in 2003 is 51-100 cm (20.1 - 39.4 inches). NMFS reviewed size at stage data for Atlantic loggerheads. Depending on the dataset used, the cutoff between pelagic immature and benthic immature loggerhead sea turtles was 42-49 cm (16.5 - 19.3 inches) SCL, and the cutoff between benthic immature and sexually mature loggerhead sea turtles was described as 83 90 cm (32.7 - 35.4 inches) SCL (NMFS SEFSC, 2001). Other authors define the benthic immature stage for loggerheads as 36 100 cm (14.2 - 39.4 inches) (Bass *et al.*, 2004). Based on these datasets and observer measurements of loggerhead sea turtles captured in the sea scallop dredge fishery, NMFS anticipates that both benthic immature and sexually mature loggerhead sea turtles are captured in this fishery. NMFS recognizes that, on rare occasions, sea turtles that interact with the modified gear may be small enough to enter the dredge bag, and that this interaction may result in the capture of the sea turtle in the bag. However, NMFS expects this to be a rare occurrence based on the life history of loggerhead sea turtles and the observer measurements.

This action requires all vessels with a sea scallop dredge and that are required to have a Federal Atlantic sea scallop fishery permit, regardless of dredge size or vessel permit category, to modify their dredge(s) with a chain mat configuration when fishing south of 41° 9.0' N. latitude (lat.) from the shoreline to the outer boundary of the EEZ.

#### New Information

On May 27, 2005, NMFS published a proposed rule to require the modification of sea scallop dredge gear for Federally-permitted vessels fishing in the mid-Atlantic. Comments on this proposed action were requested through June 27, 2005. Since the publication of

the proposed rule, three new pieces of information have become available. First, the Northeast Fisheries Science Center (NEFSC) re-examined observer records to clarify the species identity of two individual sea turtle takes that were observed in the sea scallop dredge fishery in 1996 and 1997. With respect to interactions between sea scallop dredge gear and sea turtles, "observed take" and "observed" refer to interactions that were seen and documented by a NMFS approved observer while on-watch. The 1996 take was deemed to be a loggerhead sea turtle and the 1997 take a green sea turtle. Secondly, a sea turtle take occurred in August 2005 in the Georges Bank sea scallop dredge fishery. The observer was off-watch at the time the sea turtle was taken. It is important to note that when an observer is off-watch at the time of the take much of the information on the haul that would otherwise be recorded will not be included in the observer's report. This sea turtle was identified as a Kemp's ridley sea turtle and this identification was confirmed through photographs. Lastly, a bycatch estimate of loggerhead sea turtles captured in the 2004 mid-Atlantic sea scallop dredge fishery became available. This assessment estimated 180 loggerhead sea turtles (CV = 0.37) to have been captured in sea scallop dredge gear operating in the Mid-Atlantic from June 1 through November 30.

### Comments and Responses

Nine comment letters from eight different individuals or organizations were received during the public comment period for the proposed rule. Five commenters were generally supportive of the action but provided comments on particular aspects of the proposed rule, and three commenters were opposed to the proposed action. Two public hearings were held during the comment period. One in Fairhaven, Massachusetts on June 16, 2005, and one in Cape May, New Jersey on June 22, 2005. Two individuals provided oral comments. Both of the oral comments were generally supportive of the proposed action. One of the individuals also provided written comments. A complete summary of the comments and NMFS' responses, grouped according to general subject matter in no particular order, is provided here.

*Comment 1:* Four comments addressed the spatial extent of the proposed rule. One commenter supported using a longitudinal line at 70° 20' W. longitude (long.) as the eastern boundary of the rule, one supported keeping the spatial extent as

proposed as there is not evidence that sea turtles do not use the entire region, one stated that the spatial extent was too broad, and one urged caution when choosing a longitude closer to shore as sea turtles are found in warmer waters closer to the Gulf Stream. Additionally, this commenter felt that the northern boundary did not adequately assess the potential for interactions on Georges Bank and in the Gulf of Maine, that "near-shore" areas potentially prone to warmer waters should potentially be regulated more, and that special care should be taken for vessels to avoid waters close to known nesting beaches during sea turtle nesting and mating.

*Response:* Sea turtle species that are found off the northeastern coast of the United States north of Cape Hatteras, North Carolina are, in order of frequency of occurrence, loggerhead, leatherback, Kemp's ridley, and green sea turtles (Shoop, 1980; Shoop and Kenney, 1992). This action will provide for the conservation of threatened loggerhead sea turtles and will have ancillary benefits for Kemp's ridley and green sea turtles.

Loggerhead, Kemp's ridley, and green sea turtles undergo temperature dependent seasonal migrations along the mid-Atlantic coast (Morreale and Standora, 1998; Plotkin and Spotila, 2002). In general, these turtles occur in waters off North Carolina year round, in the inshore waters (i.e., bays, estuaries, and other coastal waters) of Virginia from May through November, and in New York's inshore waters from June through October (NMFS, 1994). All three are species are known to occur in Massachusetts waters as far north as Cape Cod, but with the exception of rare sightings and strandings are not known to occur in more northern New England waters (Shoop and Kenney, 1992; Mitchell *et al.*, 2003). Detailed information on the distribution of sea turtles can be found in the EA for this action.

Off the northeastern U.S., loggerhead sea turtles are commonly sighted across the continental shelf from the shore to the shelf break as far north as Long Island (approximately 41° 9.0' N. latitude), although further north and east sightings are sparse (CeTAP, 1982; Shoop and Kenney, 1992; Mitchell *et al.*, 2003). During CeTAP surveys, loggerhead sea turtles, the most common sea turtle observed taken in the sea scallop dredge fishery, were rarely documented north of 41° N lat (Shoop and Kenney, 1992). South of Cape Hatteras, loggerhead sea turtles are year-round residents (Mitchell *et al.*, 2003).

In the western Atlantic, Kemp's ridley sea turtles are found year-round in the

Gulf of Mexico and many juveniles migrate north along the east coast in the summer (Wynne and Schwartz, 1999). Off the northeastern U.S., inshore waters of southern New England, especially Cape Cod Bay and Long Island Sound, appear to be developmental habitat for juvenile Kemp's ridley and green sea turtles (Mitchell *et al.*, 2003; Morreale and Standora, 2005). During the summer and fall, Kemp's ridley and green sea turtles are expected to occur predominantly in inshore waters where the scallop fishery does not typically operate (Lutcavage and Musick, 1985; Keinath *et al.*, 1987; Morreale and Standora, 1993; Spotila *et al.*, 1998). In addition, although the broadest extent of the western Atlantic green sea turtle's range is from Massachusetts to Argentina, including the Gulf of Mexico and the Caribbean, they are considered rare north of Cape Hatteras (Wynne and Schwartz, 1999). In 1997, a green sea turtle was observed taken in the sea scallop dredge fishery operating off of New Jersey. Based on the identification of species taken in this fishery and the distribution of green and Kemp's ridley sea turtles, NMFS expects the take of these species in the sea scallop dredge fishery to be rare.

The hawksbill sea turtle is uncommon in waters of the continental United States, preferring coral reefs. There are accounts of hawksbills in south Florida and a number are encountered in Texas. In the north Atlantic, small hawksbills have stranded as far north as Cape Cod, Massachusetts. However, many of these strandings were observed after hurricanes or offshore storms. No takes of hawksbill sea turtles have been recorded in the northeast or mid-Atlantic fisheries covered by the Northeast Fisheries Science Center observer program. Hawksbills are not expected to be present in the area impacted by this action.

Interactions with sea turtles have been observed in the sea scallop dredge fishery south of 41° N. 9.0' N lat. to the Virginia/North Carolina border. A total of 61 sea turtles have been observed taken in the Atlantic sea scallop dredge fishery during normal fishery operations from 1996 through October 31, 2005. Of these, 44 were identified as loggerhead sea turtles, 1 was identified as a green sea turtle, and 15 were hard-shelled sea turtles that could not be positively identified. An additional 13 sea turtles were reported captured while the observer was off-watch. These include a Kemp's ridley sea turtle in the sea scallop dredge fishery in August 2005.

Prior to 2005, no sea turtle takes had been observed in the sea scallop dredge fishery outside the mid-Atlantic region.

In the 1999 and 2000 scallop fishing years, relatively high levels of observer coverage (22 percent – 51 percent) occurred in portions of the Georges Bank Multispecies Closed Areas that were conditionally opened to scallop fishing. Despite this high level of observer coverage and operation of scallop dredge vessels in the area during June - October, which is generally when the water could be warm enough to support sea turtles, no sea turtles were observed captured in scallop dredge gear in these years. From 2001 through 2004, observer coverage was low in the Gulf of Maine (<1 percent in 2001, 2002, and 2004) and Georges Bank regions (<1 percent in 2001, 2002, and 2003; < 2 percent from September through November 2004 with most of the coverage occurring in November) (Murray 2004, 2005). In August 2005, a Kemp's ridley sea turtle was taken at approximately 40° 58' N. lat./67° 16' W. long. by a dredge vessel operating on southern Georges Bank indicating that takes in this area are possible.

Based on: (1) the known distribution of sea turtles, (2) sea scallop dredge fishing effort, and (3) the observed take of sea turtles in this fishery, NMFS expects the take of sea turtles by dredge vessels operating in the New England sea scallop dredge fishery on Georges Bank to be rare. However, the take of the Kemp's ridley sea turtle on southern Georges Bank is evidence that takes in this area are possible. It should be noted that this take occurred on southern Georges Bank, south of the 41° 9.0' N. lat. boundary. Although takes of sea turtles north of this boundary are possible, NMFS expects interactions between sea turtles and sea scallop dredge gear in this area to be rare. This final rule requires vessels fishing south of 41° 9.0' N. lat. from the shoreline to the outer boundary of the EEZ to use the chain mat configuration from May 1 through November 30 each year.

Mating for loggerhead sea turtles takes place in late March to early June in the general vicinity of the nesting area, and eggs are laid throughout the summer. In the western Atlantic, most loggerhead sea turtles nest from North Carolina to Florida and along the Gulf Coast of Florida, although Virginia is the northernmost extent of loggerhead nesting on the eastern coast of the United States (DeGroot and Shaw, 1993; USFWS 2004). Sea scallops only occur in inshore waters in the Gulf of Maine and Canada. Therefore, NMFS does not anticipate the overlap of sea turtles and sea scallop dredging in inshore areas during nesting and mating season.

*Comment 2:* Two comments addressed the temporal extent of the

proposed rule. One commenter supported the use of November 30, the preferred alternative, rather than October 15, as described in non-preferred alternative 1, to better account for variability in sea turtle migration and fishing activities. The other commenter stated that the proposed rule is for too long a time and the modification should be required when sea turtles are in the area (a dynamic area management (DAM) program). The commenter explained that the DAM program could be implemented similarly to the program currently used for right whales and could use the observer program to report the presence of sea turtles in the area. The commenter also stated that the use of the turtle chains will consume more fuel, catch less scallops, and be less efficient. The commenter believes that a DAM program would minimize this loss of efficiency and the use of a non-renewable resource, fuel.

*Response:* The temporal extent of these proposed measures are based on the time period associated with the overlap of sea turtles and the sea scallop dredge fishery using Cape Hatteras, North Carolina as the lower boundary. Cape Hatteras was chosen as the lower boundary as NMFS does not anticipate any fishing south of Cape Hatteras due to a lack of scallop resources. In general, hard-shelled sea turtles move from offshore to inshore and/or from south to north in the spring and in the opposite direction in the fall. These turtles occur year round in waters off North Carolina; however, they are considered rare North of Cape Hatteras in the winter (Mitchell *et al.*, 2003). Hard-shelled sea turtles occur in the inshore waters (i.e., bays, estuaries, and other coastal waters) of Virginia from May through November, and in New York's inshore waters from June until October (NMFS, 1994).

Interactions between the sea scallop dredge fishery and hard-shelled sea turtles have been documented from late June to late October, and the potential for interactions exists during May and November due to the overlap of sea turtles and fishing distribution. Interactions with sea turtles have been observed in the sea scallop dredge fishery south of 41° 9.0' N. lat. to the Virginia/North Carolina border. Based on the known distribution of sea turtles, as described in the response to Comments 1 and 2, the observed take of sea turtles in the sea scallop dredge fishery from June through October, and to account for variability in both sea turtle migration and fishing activity, the final rule requires vessels to use the modified sea scallop from May 1 through November 30 each year.

At this time, it would not be feasible to implement a DAM program for sea turtles. The DAM program for right whales is based on scientific aerial survey effort. These aerial surveys for right whales are not designed to assess sea turtle distribution and, currently, there is no aerial survey program for sea turtles. The observer program is not the appropriate platform for looking for sea turtle aggregations as sea turtles are often difficult to see from a vessel, the program is not a scientific survey to assess distribution of protected species, and observer locations are determined by many criteria and may not be appropriate for evaluating aggregations of turtles in the mid-Atlantic.

*Comment 3:* One commenter stated that the proposed rule should identify areas more prone to sea scallop dredge - sea turtle interactions based on water temperature and known sea turtle biology. The commenter also stated that although it is not reasonable to ask that all scallop dredging cease during warmer months, dredging should be restricted in shallow embayments and deeper offshore waters during these months.

*Response:* During 2001–2003, sea surface temperature (SST) was found to be significant factor influencing sea turtle bycatch rates in the mid-Atlantic sea scallop dredge fishery. In 2001 and 2002, a higher probability of turtle bycatch occurred after waters had warmed to 19 °C and in 2003, higher probabilities occurred after waters warmed to 22 °C. These differences may reflect inter-annual variations in SST or turtle distributions, shifting patterns in the fishery, or interactions between random samples and statistical models (Murray, 2004). Murray (2004) found that there may be a minimal threshold above which sea turtle bycatch is likely to occur, although this minimal temperature threshold is likely to fluctuate from year to year. SST was not found to be a significant predictor of sea turtle bycatch rates in the mid-Atlantic during the 2004 fishing year (Murray, 2005). Interactions in 2004 may have been influenced by a combination of depth zone and SST, and the small number of takes in 2004 relative to the number of dredge hours examined (approximately 1 take:1,000 observed dredge hours) may have precluded the detection of a significant effect. The rare nature of turtle interactions in 2004 made it difficult to identify variables significantly affecting bycatch rates, and even area and depth, selected for a best fit, were not strong predictors (Murray, 2005).

Due to the influence of temperature in 2001, 2002, and 2003 affecting sea turtle

bycatch rates, NMFS considered an alternative which would provide protection to sea turtles when sea surface temperatures reached a level at which elevated sea turtle bycatch was expected. Under the alternative, vessels would be prohibited from fishing south of 41° 9.0' N. lat. and north of 38° 0.0' N. lat. from May 1 through October 31 and south of 38° 0.0' N. from May through November 30. NMFS rejected this alternative from further analysis as it would result in essentially the same impacts to sea turtles and the fishing industry as a closure from May 1 through November 30 each year (see Comment 4 for a more detailed response regarding seasonal closures) and, given the recent bycatch analysis, the relationship between elevated levels of bycatch and SST is unclear. Requiring the chain mat modification when sea surface temperatures reached a level at which elevated sea turtle bycatch was expected would likely result in the same impacts as this action. The sea scallop dredge fishery is not expected to overlap with sea turtle distribution in shallow embayments of the mid-Atlantic as sea scallops do not occur in shallow embayments there. Sea scallops only occur in inshore waters in the Gulf of Maine and Canada.

*Comment 4:* One comment was received that supported non-preferred alternative 3 (seasonal closure of the mid-Atlantic) to effectively protect sea turtles from scallop dredging during the summer by removing sea scallop dredge vessels from the times and places where sea turtles occur. The commenter stated that this is the only alternative that can be shown to effectively reduce loggerhead sea turtle takes and subsequent injury and mortality, that concern about displacement of effort adversely affecting habitat should not block protection of sea turtles, and that economic considerations in no way argue against alternative 3, in part because the economic analysis of alternative 3 is grossly irrational (see Comment 17).

*Response:* A seasonal closure of all waters south of 41° 9.0' N. lat. was considered and analyzed in the EA. This alternative would provide the most protection to sea turtles as scallop dredge vessels would not be in the area when sea turtles are present. Sea scallop fishing is not distributed evenly throughout this area. In a review of Vessel Trip Reports for 2003 and 2004, reported trips for the mid-Atlantic (defined in Murray as approximately 41°15'N/70°00'W to 36°06'N/70°00'W) during the period June through November occurred from approximately 75° 30.0' W. long. to approximately 71°

W long. (Murray 2004, 2005). The commercial sea scallop fishery in the mid-Atlantic generally operates at depths between 35 – 75 m (memo from John Boreman to Patricia A. Kurkul, 6 December 2004).

At this time, it is not known whether sea turtles interact with sea scallop dredge gear throughout the area in which the fleet operates in the mid-Atlantic or if interactions are limited to certain areas and certain times. Observer coverage has documented several trips on which more than one sea turtle was observed taken. In 2002, out of 62 observed trips, one of the observed trips took three sea turtles and four of the observed trips took two sea turtles. In 2003, out of 71 observed trips, one of the observed trips took four sea turtles, two of the observed trips took three sea turtles, and three of the observed trips took two sea turtles (Murray, 2004), and in 2004, out of 172 observed trips, one observed trip took two sea turtles (Murray, 2005). At this time, NMFS does not know why some trips have multiple takes and does not have sufficient evidence to refine a potential closure area further.

A closure of the mid-Atlantic would likely result in a shift of effort further north. A behavioral model, which does not exist at this time, would be necessary to assess shifts in effort. In the absence of this model, NMFS assumed the worse case scenario that vessels would choose not to fish an alternative area. According to the 2003 VTR data, of the 314 scallop dredge vessels that fished in the mid-Atlantic during May through November, 208 vessels fished exclusively in the mid-Atlantic region and 106 vessels fished in the mid-Atlantic and further north. If, under a closure, vessels choose to relocate to fishing grounds not affected by the closure, gear conflicts may result. As the number of scallop vessels fishing on these grounds increases, the vessels would be competing with other scallop vessels that have historically fished these grounds as well as with each other. Other gear conflicts might include the lobster fishery and, to a lesser extent, the groundfish fishery. It is difficult to determine how much effort would increase on Georges Bank based on a closure in the mid-Atlantic, but if effort were to increase on Georges Bank, there could be an increase in the bycatch of groundfish in this area.

The extent of this shift and its impacts on physical, habitat, and biological resources in these areas cannot be quantified at this time. In general, a shift in effort would increase impacts to habitat in the areas outside of the mid-Atlantic and perhaps in the mid-

Atlantic during the periods it would be open to sea scallop dredge fishing. During the closure (May through November), it is expected that there would be beneficial impacts to the mid-Atlantic habitat. The net impacts, and the magnitude of these impacts, to habitat are not clear. The economic analysis for a seasonal closure in the mid-Atlantic assumed the economically worst case scenario, that the alternative would not result in a displacement of effort. Instead, the analysis assumed that the vessels would not fish during the closure period (see Comment 17 for a more detailed response regarding the economic analysis). It is likely that some vessels will shift their fishing effort to other areas; therefore, the economic impact will be less than that assumed for the final EA. Due to these factors - the broad extent of the closure area, displacement of effort, and uncertainty of the extent of the area in which interactions are occurring - non-preferred alternative 3 was rejected.

*Comment 5:* One commenter stated that all dredging should be banned year round in the area proposed. This commenter also stated that all longlines and purse seine fishing should be banned.

*Response:* As described in the response to Comment 2, sea turtle presence varies with season. The capture of sea turtles in sea scallop dredge gear has been documented in the mid-Atlantic from June through October and the potential for takes exists in May and November due to the overlap of the sea scallop dredge fishery with sea turtle distribution. As described above, a single sea turtle take has been documented in the sea scallop dredge fishery on southern Georges Bank in August. As sea turtle distribution and sea scallop dredge effort are not expected to overlap from December 1 through April 30, extending the effective period of the rule through these months is not expected to provide additional benefit to sea turtles. A seasonal closure of the mid-Atlantic to sea scallop dredging is addressed in the response to Comment 4. The comments regarding longline and purse seine fisheries are not relevant to the proposed rule.

*Comment 6:* Two comments were received relating to scallop dredge gear and operational modifications in the fishery. One commenter stated that the rule should require modifications to the dredge frame and cutting bar to reduce injury to sea turtles as well as modifications in the operation of the fishery, including not setting gear if a sea turtle is seen in wake, stopping gear at the 10-fathom mark for 30 seconds

during haul back, and restricting tow times to reduce drowning of sea turtles. Another commenter stated that NMFS should consider additional ways to reduce interactions of dredges with turtles, such as keeping discards on board during fishing operations.

*Response:* NMFS is working with industry to evaluate the effectiveness of a dredge with a modified cutting bar and bail. This dredge was designed to reduce serious injury to sea turtles that may be encountered on the bottom. Initial testing of the gear in Panama City, FL showed that the gear was capable of deflecting a model turtle over the bail. However, additional studies are necessary to assess the effectiveness of this modification at reducing the severity of interactions on the ocean floor and at maintaining the scallop catch. This gear research is on-going.

It has been suggested that the discard of scallop viscera during fishing operations may be attracting sea scallop dredge vessels to the fishing area. White (2004) reported loggerhead sea turtles opportunistically feeding on discards from gillnet vessels docked at a quay in Greece and there are anecdotal reports of sea turtles opportunistically feeding on discards in the shrimp trawl fishery. It is unclear whether the turtles were drawn to the vessel because of the discards or just happened to be in the same place as the vessels at the same time. At this time, NMFS has no evidence to refute or support the possibility that discards may be attracting sea turtles to the scallop vessel. In addition, it is not clear what the effect would be from a prohibition of dumping viscera. Sea turtles that may be attracted to discarded viscera might disperse away from fishing vessels if the practice is prohibited. Alternatively, these turtles may remain in the fishing area and feed on natural prey in the benthos. It is not clear that a prohibition on the discard of sea scallop viscera would reduce the risk of interaction.

NMFS does encourage observers to collect all sea turtle carcasses brought on board for necropsy, including an analysis of stomach/GI samples for prey items. However, this is logistically difficult and, to date, only one sea turtle carcass has been returned and necropsied. Stomach and intestinal samples could not be obtained from this turtle due to its condition.

In the draft EA for the proposed rule and the final EA, NMFS considered an alternative that would require operational modifications in the sea scallop dredge fishery. Although operational modifications could provide some benefit to sea turtles, the extent of these benefits is unclear. It would be

difficult to ensure compliance and to assess the impact of these modifications on sea turtles. Due to this uncertainty, this alternative was rejected and not further analyzed.

*Comment 7:* One commenter stated that the decrease in scallop catch would be greater than the 6.71 percent observed in the experimental fishery. Another commenter stated that the proposed rule affords a practical solution, that the modification could be retrofitted onto existing scallop dredges, and that the costs of the chains and losses of scallops are a reasonable measure for insuring the conservation of sea turtles stocks as well as the viability of the industry.

*Response:* During the experimental fishery to test the chain mat configuration, scallop catches were variable from vessel to vessel and trip to trip, with differences ranging from -30.88 percent to 7.28 percent (average -6.71 percent). The study authors and NMFS gear technologists anticipate that the difference in catch will decrease as industry becomes more familiar with the chain configuration. However, if vessels with a loss of catch do not choose not to offset this loss with an increase in effort, there is the potential for loss of revenue.

*Comment 8:* Two comments were received on the species considered in the proposed rule. One commenter stated that the proposed rule should consider other species of sea turtles found in the geographic area of the proposed measures. One commenter stated that Kemp's ridley, green, and leatherback sea turtle may be captured by scallop dredges and trawls as a number of individuals captured in the fishery are not identified to species. In addition, the commenter stated that the unobserved take reported as a leatherback in the experimental fishery should be considered valid. The commenter believes that all four species are likely to be taken in the fishery; therefore, consultation should be reinitiated and take of all four species considered.

*Response:* Since the publication of the proposed rule, two new pieces of information have become available indicating that Kemp's ridley and green sea turtles are vulnerable to capture in sea scallop dredge gear. Two sea turtles were observed taken in the sea scallop dredge fishery from 1996 through 1997. For the initial and subsequent Biological Opinions on the Atlantic Sea Scallop Fishery Management Plan, these sea turtles were considered unidentified hard shelled species based on discussions with some of the staff of the NEFSC. Subsequent to the publication

of the proposed rule, the records maintained by the Fisheries Sampling Branch, NEFSC were re-examined and, on August 23, 2005, the NEFSC indicated that the 1996 sea turtle should be considered a loggerhead and the 1997 sea turtle should be considered a green based on written documentation provided by the observer and the observer's experience. Both of these observed takes occurred in the mid-Atlantic sea scallop dredge fishery.

Sea turtle species that are found off the northeastern coast of the United States north of Cape Hatteras, North Carolina are, in order of frequency of occurrence, loggerhead, leatherback, Kemp's ridley, and green sea turtles (Shoop and Kenney, 1992). Additional information on the distribution of loggerhead, Kemp's ridley, hawksbill and green sea turtles is found in comment 1 and the EA for this action. This action will provide for the conservation of threatened loggerhead sea turtles. Based on information received subsequent to the publication to the proposed rule, it is also expected to have ancillary benefits for Kemp's ridley and green sea turtles, which have been observed taken in the sea scallop dredge fishery, albeit to a lesser extent than loggerheads.

While the sea scallop dredge fishery does overlap with leatherback sea turtle distribution, NMFS has no confirmed report that this gear interacts with leatherback sea turtles, either in the water column or on the bottom. During the experimental testing of the modified sea scallop dredge gear, two unobserved interactions were reported. One of the unobserved interactions was reported by the fisherman as a loggerhead sea turtle. The second unobserved interaction was reported by the fisherman as a leatherback. NEFSC's general protocol for confirmation of at-sea species identification requires that the species be considered as unknown unless either the observer is experienced in sea turtle identification and has confidence in the identification, or the observer is inexperienced and has provided supporting information (i.e., photos, tissue samples). As far as the NEFSC is aware, the fishermen reporting the take of the leatherback and the take of the loggerhead have not been trained nor are they experienced in identifying sea turtle species. No supporting materials, such as photos or tissue samples, have been provided. Therefore, based on the confirmation protocol for at-sea species identification, the NEFSC considers the species identification of these takes to be "unknown turtle species". Leatherback sea turtles are predominantly a pelagic species and

feed on jellyfish. Since scallop dredge gear operates on the bottom, leatherback sea turtles are less likely to encounter this gear compared with loggerhead sea turtles. Given their large size, prey and habitat preferences, leatherback sea turtles are not expected to be struck by the gear operating on the bottom or caught in sea scallop dredge gear. In the unlikely event that a leatherback sea turtle were to interact with sea scallop dredge gear, the chain mat configuration would prevent it from entering the dredge bag, and would prevent subsequent injuries that might ensue from such capture.

As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that affect listed species or critical habitat in a manner or to an extent not considered in the previous opinion; (3) the agency action is subsequently modified in a manner that causes an effect to listed species or critical habitat not considered in the previous opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. This action does not trigger reinitiation.

Although this action does not trigger reinitiation of consultation, NMFS reinitiated ESA section 7 consultation on the Scallop FMP on November 1, 2005. Observer coverage of the Atlantic sea scallop fishery in the 2005 fishing year and a review of past observer records has revealed new information on the fishery in relation to its effects on ESA-listed sea turtles. This information includes the take of five loggerhead sea turtles in the sea scallop trawl fishery, the take of a Kemp's ridley on southern Georges Bank, and confirmation from the NEFSC that a turtle observed taken in scallop dredge gear in 1997 should be considered a green sea turtle.

*Comment 9:* Several comments were received on the nature of the interaction. One commenter expressed concerns that the tests on the chain mats have been limited and that additional research is needed to determine how "dredge bars" injure and kill sea turtles. A second commenter stated that it is unknown what happens when turtles interact with the chain mat modified dredge and that there is a significant risk that the chains do not reduce take, but simply change the nature of the interaction. This commenter also stated that, without video monitoring, it is possible that the rule may prevent real attempts to address the problem by

hiding what is happening from view and that, to be effective, video work must be done in a systematic manner prior to proposing the modifications as a regulation. The commenter stated that the proposed action may do very little to reduce mortality and injury to sea turtles and that NMFS admits that the chain mat configuration would not lessen the number of sea turtles taken, injured, or killed by the dredge on the sea floor. The commenter stated that it stands to reason that a significant number of the sea turtles that are seriously injured and end up dying are caught on the sea floor as the dredge is towed on the sea floor for far more time than it is hauled up to the boat through the water column. Lastly, the commenter states that the EA does not appear to analyze how often injuries occur from interactions with the dredge in the water column, but the implication is that even without the turtle chains, such interactions are unlikely. Another commenter stated that it is unlikely that strikes by scallop dredges with turtle excluder devices represent a significant source of mortality or injury while fishing on bottom. The commenter stated that while fishing, dredges are towed at a relatively slow speed and that it appears that most injuries result from negative interactions caused when turtles enter the dredge, remain submerged, or are brought on deck.

*Response:* NMFS recognizes the uncertainty regarding whether sea turtles interact with sea scallop dredges as the dredge is dragged along the bottom, as the dredge is hauled back, or both. It takes approximately 1 minute to set a dredge and approximately 10 minutes to haul back, dump the catch, and reset the gear. For the remainder of the haul, the gear is on the bottom. However, it is not known where sea turtles are encountering the gear. It is likely that sea turtles are interacting with the gear both in the water column and on the bottom. Sea turtles have been observed in the area in which sea scallop gear operates and they have been seen near scallop vessels when they are fishing or hauling gear. In addition, sea turtles are known to forage and rest on the sea floor as part of their normal behavior. The condition of sea turtles observed taken in the sea scallop dredge fishery ranges from alive with no apparent injuries to alive and injured to fresh dead. As described below, NMFS believes that interactions between sea turtles and sea scallop dredge gear that occur on the bottom are likely to result in serious injury to the sea turtle. Based on this assumption, NMFS believes that the unharmed/slightly injured turtles

observed captured in the sea scallop dredge bag follow an interaction with sea scallop dredge gear in the water column.

Data do not exist on the percentage of sea turtles interacting with the chain mat-modified gear that will be unharmed, sustain minor injuries, or sustain serious injuries that will result in death or failure to reproduce. However, there are several assumptions that can be made to assess the degree of interaction. With the chain mat installed over the opening to the dredge bag, it is reasonable to assume that sea turtles, which would otherwise enter the dredge bag, will instead come into contact with the chain mat at least. NMFS recognizes that this modification may not reduce the number of sea turtles interacting with sea scallop dredge gear, but it is reasonable to assume that the modification will reduce mortality and the severity of injury following interactions that occur in the water column. After an interaction in the water column, severe injuries to sea turtles following capture in a dredge bag without the chain mat configuration likely result from crushing by debris in the dredge bag, dumping of the turtle on the vessel's deck, or crushing them with falling gear. NMFS does not have information on the proportion of takes occurring in the water column. However, preventing the turtles from entering the dredge bag will prevent injuries resulting from such capture and likely result in a non-serious interaction following an encounter in the water column.

With the chain mat in place, it is reasonable to assume that the sea turtles on the sea floor would still interact with the gear, but that the nature of the interaction would be different. With the modified gear, the sea turtles may still be hit by the leading edge of the frame and cutting bar and would likely be forced down to the sea floor rather than swept into the dredge bag. Since the turtles are not being swept into the bag, they could be run over by the dredge bag and club stick. At this point, the turtle will have likely already been hit and run over by the cutting bar and the leading edge of the dredge frame, which constitutes a substantial weight. In 2005, NMFS worked with industry to test a dredge with a modified cutting bar and bail designed to minimize the severity of impacts to turtles that may be encountered on the bottom. A standard New Bedford style dredge was used as a control, and both dredges were equipped with the chain mat configuration, although the purpose of the project was not to study the chain mats. The project used turtle carcasses

and model turtles to simulate a worse case scenario of a dredge overtaking a sea turtle lying on the bottom. During the study, the turtle carcasses were observed lodged in front of the cutting bar and pushed along, eventually going under the cutting bar and getting caught on the chain mat. The model turtle was deployed on one tow with the modified dredge. During this tow, the model turtle was deflected over the bail of the modified dredge, indicating that this type of modification might be effective at reducing the severity of encounters on the bottom. It is important to note that the project was limited in that behavioral responses of a live turtle encountering a dredge could not be assessed. The video from the study did show that it is possible that sea turtles encountering the dredge on the bottom may become caught on the chains after being hit by the leading bar of the dredge. However, this follows the turtle being struck by the leading edge of the dredge during which it is likely to have sustained serious injuries. NMFS has made the conservative assumption that a turtle in a bottom interaction sustains serious injuries on the bottom regardless of whether the chain mat is used. Under this conservative assumption, there would not be a benefit from the chain mat for bottom interactions. This assumption, however, may be too conservative in that it is possible that turtles in a bottom interaction may only receive minor injuries. In the unlikely scenario of a turtle receiving only minor injuries following a bottom interaction, the chain mat modification would prevent serious injuries that result from capture in the dredge bag (i.e., injuries from debris in the bag, forced submergence, dropping on deck, or crushing by the dredge). A detailed description of the assumptions made and the assessment of the interactions can be found in the EA on this action.

NMFS recognizes that the interactions between sea turtles and sea scallop dredges are likely to continue and may not be observed from on deck. In 2004 and 2005, NMFS conducted video research to document the nature of the interaction between sea turtles and sea scallop dredge gear. Approximately 80 hours of video were collected and reviewed. No sea turtles were documented. Further video work may be conducted under the Sea Scallop Research Set Aside Program. It is evident from these studies that using video to document the specific nature of sea turtle-sea scallop dredge interactions, in general, and sea turtle-chain mat interactions specifically, is logistically difficult. Due to the low

number of interactions between sea turtles and sea scallop dredge gear (approximately 1 take per 1,000 observed dredge hours in 2004), it will be difficult to obtain sufficient video documentation of sea turtle behavior to allow a thorough analysis of the types of interactions that may occur. Waiting for such video documentation would result in an extended delay in the use of a chain-mat modified dredge. As this modification is expected to provide a net benefit to sea turtles, NMFS believes it is important to move forward without delay.

In addition, NMFS will monitor scallop fishing effort for significant increases or decreases in effort in the mid-Atlantic and the possible effects that changes in effort may have on sea turtles. NMFS is continuing to investigate modifications of the gear that may reduce the effects of interactions which occur on the ocean bottom.

*Comment 10:* Two comments were received on the level of take in the sea scallop fishery. One commenter stated that NMFS has repeatedly failed to recognize the extent and impact of the scallop fishery's impact on threatened and endangered species, that the anticipated take level in the proposed rule does not incorporate the supposed benefits of the chain mat requirement, and that these benefits should be reflected in a reduction of allowed take. If the action is not expected to reduce take and injury, then further efforts are needed. In addition, the commenter urged NMFS to expeditiously provide information on genetic samples taken in this fishery. The second commenter stated that the proposed rule's estimated take was too low because the 2004 Biological Opinion did not include a number of ways that dredges can take sea turtles (i.e., being hauled up on top of the gear, being wedged in the forward parts of the dredge frame, being held against the dredge by the pressure of the flow of water, or by being run over by the dredge and chain bag).

*Response:* According to the December 2004 Biological Opinion, the agency anticipates that up to 749 sea turtles will be taken each year without the chain mat configuration in place, and that up to 479 of these are expected to sustain injuries leading to death or failure to reproduce. As described in the proposed rule (70 FR 30660) and in the response to Comment 9, up to 749 turtles may still interact with the gear. However, the chain mat configuration is expected to prevent serious injury leading to death or failure to reproduce caused by dumping of the turtles on the vessel's deck and crushing them by falling gear or debris in the bag

following an interaction in the water column. At this time, the proportion of sea turtles interacting with the dredge gear in the water column cannot be quantified. In 2004 and 2005, NMFS worked with industry to conduct approximately 80 hours of video research to document the nature of the interaction between sea turtles and sea scallop dredge gear and to investigate the behavior of sea turtles around sea scallop dredges, but no sea turtles were documented.

Tissue samples for genetics samples have been collected from loggerhead sea turtles captured in the sea scallop dredge fishery, and the results are still pending. NMFS is working to obtain these results as soon as is reasonably possible.

The bycatch estimate completed by the NEFSC, and the anticipated take level in the 2004 Biological Opinion, included any interaction occurring during an on-watch haul, that was not moderately or severely decomposed upon capture. This includes sea turtles hauled up on top of the gear, wedged in the forward parts of the dredge frame, or held against the dredge by the pressure of the flow of water as observed from on deck. Sea turtles may interact with sea turtle dredge gear in the water column or on the sea bottom and not be brought to the surface. These interactions cannot be quantified at this time.

*Comment 11:* A number of comments were received on the need for additional research including monitoring the degree of progress made in reducing sea turtle bycatch, modifications to the dredge frame and cutting bar, video footage to document the interactions, and observer coverage on scallop dredge vessels and underwater video cameras on the dredge to evaluate the effectiveness of the chain mats. One commenter also expressed concern that the tests on the chain mats have been very limited, and urged NMFS to provide extensive observer coverage to determine the effectiveness of the chain mats.

*Response:* As described above, NMFS will continue to monitor the take of sea turtles and the effectiveness of this regulation in the sea scallop dredge fishery through observer coverage, fishing effort data, and other data, as available. NMFS is currently working with industry to research the effectiveness of a dredge with a modified bail and cutting bar at reducing the severity of sea turtle interactions that are occurring on the sea floor bottom and retaining sea scallop catch. This research is described above. Video work conducted in 2004 by the NEFSC and industry did not



document any interactions between sea turtles and sea scallop dredge gear, but was successful in devising a methodology to video in front of sea scallop dredges. In 2005, approximately 73 hours of video work was conducted to document the nature of the interaction between sea turtles and sea scallop dredges and to investigate the behavior of sea turtles around sea scallop dredges. No sea turtles were documented.

*Comment 12:* One commenter stated that the proposed action could have profound adverse effects on efforts to protect loggerhead sea turtles and thus on loggerhead turtle populations. The commenter claimed that without video monitoring, no one will know how many loggerhead turtles were taken, injured, and killed underwater, an accurate estimate of sea turtle takes would be impossible, and neither individuals nor the agency would be able to assess whether these takes may exceed the December 2004 incidental take statement. Another commenter expressed concerns that the chain mat modified dredge may contribute to underestimates of sea turtle capture by preventing injured and dead turtles from being brought on deck.

*Response:* NMFS recognizes that interactions between sea scallop dredge gear and sea turtles are likely to occur and that these interactions may not be observed from on deck. As described above, NMFS will continue to use observer information, fishing effort data, and other data, as available, to monitor the fishery and its possible effects on sea turtles. NMFS will use observer data to continue to evaluate the take of sea turtles in other parts of the dredge (i.e., the forward parts of the frame and on top of the gear). In addition, observer coverage may provide information on the effectiveness of the chain mat modification. NMFS will monitor scallop fishing effort for significant increases or decreases in effort in the mid-Atlantic and the possible effects that changes in effort may have on sea turtles. This will be of particular importance for monitoring the level of take exempted in the Incidental Take Statement (ITS) for the fishery. NMFS will develop a methodology, using observer and fisheries data, and other information as available, to assess compliance with the ITS. In addition, further video research may be conducted under the Sea Scallop Research Set Aside Program to evaluate the behavior of sea turtles around sea scallop dredge gear and to document the specific nature of the interaction.

*Comment 13:* One comment was received regarding enforcement and

monitoring of regulations to ensure vessel compliance. The commenter stated that a modification deadline should be implemented, that the proposed rule should mention self-reporting programs and observer programs because reporting and record-keeping measurements are necessary to assess if the modification is an effective means of reducing bycatch, and that NMFS should ensure that vessels have complied with the modification.

*Response:* The effective date for the regulations is 30 days after publication of the final rule in the **Federal Register**. NMFS will continue to use observer information, fishing effort data, enforcement, and other data, as available, to monitor the fishery and its possible effects on sea turtles. This includes self-reporting programs, such as the Vessel Trip Report program that is already in place in the fishery.

*Comment 14:* One commenter stated that the rule is more appropriately enacted under the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), rather than the ESA. The Atlantic sea scallop fishery is managed by the New England Fishery Management Council, which has expertise in the management of the scallop fishery and would be able to more quickly and efficiently adjust the rules as new information becomes available.

*Response:* Implementing the proposed regulation under the ESA rather than the Magnuson-Stevens Act does not prevent NMFS from responding quickly and efficiently as new information becomes available. In addition, implementing this action under the ESA does not preclude future actions from being implemented under either the ESA or the Magnuson-Stevens Act, as appropriate.

*Comment 15:* One commenter stated that NMFS should consider ways for fishermen, working in conjunction with appropriate veterinary or rescue facilities, to bring turtles with cracked shells to these facilities. In addition, developing good techniques to repair turtle shells damaged by boats and fishing gear is a growing need to be addressed.

*Response:* Currently, information regarding the transfer of injured turtles to appropriate rehabilitation facilities is included in the fishery observer training packets, including contacts for appropriate/authorized facilities from Maine to North Carolina. Observers are encouraged to make these arrangements for injured sea turtles as logistics and practicality allow, taking into account trip length and ability to transfer turtles quickly and safely. It is generally

considered prohibitive if a turtle is taken during a multi-day trip, as a seriously injured turtle would need to be transferred immediately, all resources to enable the transfer would be voluntary/donated, the receiving facility must be able to accept the case, and must agree to the transfer before a turtle is brought in. Vessels in the limited access fleet generally take extended trips of up to 12–20 days. Often, based on NMFS' experience with trained observers, the transportation of sea turtles to rehabilitation facilities is logistically challenging.

Currently, an agent or employee of NMFS while acting in the course of his/her official duties is exempt from the take prohibitions on endangered and threatened sea turtles while aiding an injured sea turtle in the marine environment. Regulations under 50 CFR 223.206(d) require fishermen who incidentally take turtles to return them to the water immediately (or after resuscitation), prohibit the landing, offloading, or transshipping of incidentally caught sea turtles. NMFS will consider whether and how it is possible under these provisions for a fishermen to work with rehabilitation facilities to bring sea turtles to these facilities. Currently, fishermen should contact the Sea Turtle Stranding and Salvage Network to see if a network member would meet the vessel and retrieve the turtle at sea.

*Comment 16:* One commenter stated that the draft EA strongly supports a finding of significant impact. They state that the EA contends that the chain mat modification would significantly benefit sea turtles and that the characteristics of the geographic area, the presence of loggerhead sea turtles, indicate the need for an Environmental Impact Statement. They also state that the action is highly controversial, highly uncertain, and creates a significant precedent.

*Response:* The draft EA supports a finding of no significant impact. There is expected to be a benefit to sea turtles by reducing serious injury and mortality following a take in the water column; however, the degree of benefit is limited given that the installation of a chain mat would only reduce the severity of injuries resulting from a portion of possible takes. No unique characteristics of the geographic area were identified. The presence of loggerhead sea turtles in the mid-Atlantic is not a unique characteristic of the area. The gear modifications are limited in geographic area and time and are implemented in an effort to facilitate the coexistence of fishing activity and sea turtles. These factors restrict the scope of the effects. This action is not highly controversial



given that the action is designed to benefit sea turtles, it would have a relatively small impact on the fishing industry, and the industry has petitioned NMFS for a similar action.

While there is not perfect information available on the nature of the interaction between sea scallop dredge gear and sea turtles, NMFS has made reasonable assumptions in evaluating the risks and benefits of the proposed action. The best available scientific information shows that the use of the chain mat will prevent sea turtles from entering the dredge bag and prevent injuries ensuing from their capture. The action also does not set a significant precedent as gear modifications are a commonly used tool to reduce the severity of interactions between fishing gear and sea turtles.

*Comment 17:* One comment was received on the economic analysis of alternative 3. The commenter stated that the economic analysis is grossly irrational as it does not take into account a shift of effort in the fishery, but rather assumes that during the closure season fishing activity that would ordinarily take place in the mid-Atlantic would simply disappear. According to the comment, the economic analysis must take shifting effort into account and properly analyze and quantify the economic impact caused by the limited seasonal displacement.

*Response:* To properly estimate potential shifts in scallop dredge fishing effort, an economic behavioral model, which does not exist at this time, would be needed. In the absence of this model, NMFS assumed the worst case scenario in assessing the economic impacts of a seasonal closure. The conservative approach is to overestimate, rather than to underestimate, the total industry loss due to a regulation. According to the 2003 VTR data, 208 of the 314 vessels that were included in the analysis fished exclusively in the mid-Atlantic and 106 vessels fished both in the mid-Atlantic and the New England fishing areas. NMFS recognizes that some of these vessels would likely shift their effort to other areas if the mid-Atlantic were closed to sea scallop dredge fishing from May 1 through November 30.

*Comment 18:* One comment was received on the failure to provide data on skate bycatch at the species level in the experimental fishery. The barndoor and thorny skates are included on NMFS national "Species of Concern" list and the American Fisheries Society of "Marine Species at Risk". The commenter stated NMFS should lead the way in fulfilling the Skate Fishery Management Plan's goals to improve the

data-poor situation with skates by ensuring all approved experimental fisheries in the region record and report skate catches by species.

*Response:* The sea scallop dredge research on the chain mat modification was conducted under a grant through the NMFS Sea Scallop Research TAC Set-Aside program. As such, the experimental fishery was operating under the Atlantic Sea Scallop Fishery Management Plan, which requires that vessels submit Vessel Trip Reports (VTR) on which all bycatch species are reported to species level whenever possible. In addition, bycatch information for experimental fisheries is requested to the highest level possible. VTR codes for skates at the species level have existed since 2003 and NMFS has revised the printed VTR instructions to include species level codes for skates although they have yet to go to print. However, it is permissible for fishermen to report skates as unspecified and not at the species level. Thus, data collected at the species level may be incomplete.

*Comment 19:* One commenter stated that the information used to support the preferred alternative is based on assumptions and guesswork, not scientific research and that this information is inadequate. The commenter stated that it is crucial to assess the effects of turtle chains through underwater video monitoring prior to proposing the non-experimental use of the chain mat. Furthermore, the commenter states that the studies on which the preferred alternative is based are fatally flawed as they rely only on on-deck observations and so only addressed whether the chain mat could reduce the number of sea turtles caught in the dredge and did not address whether the chains reduced the number of sea turtle takes, injuries, and deaths caused by scallop dredging.

*Response:* The experimental fishery used two paired dredges, one equipped with a standard dredge and one equipped with a modified dredge. This paired design is an industry standard in gear work and is utilized to minimize unaccountable environmental variation. The study involved over 3000 paired hauls, which resulted in enough statistical power to be able to detect differences in the turtle catches between the modified and the unmodified dredge. There was a statistical difference between turtle catches in the control and modified dredges (at alpha - 0.05 level). NMFS recognizes that these studies relied on on-deck observations, and that sea turtles may be struck by the dredge while fishing near the bottom or while being hauled through the water column and not

brought on-board. Unfortunately, these types of interactions cannot be quantified at this time because information on these interactions does not exist. However, the best available information does show that the chain mat modification prevents most, if not all, captures of sea turtles in the dredge bag; therefore preventing injuries that occur from such capture.

*Comment 20:* One comment was received on the status of the loggerhead sea turtle. The commenter stated that the loggerhead sea turtle is no closer to recovery now than when it was originally listed and that the most recent data show that the number of loggerhead nests in Florida's Archie Carr National Wildlife Refuge has dropped precipitously from 1998 to 2004.

*Response:* A detailed description of the status of the species can be found in the Environmental Assessment for this action, while a summary is provided here. A number of stock assessments (TEWG, 1998,2000; NMFS SEFSC 2001; Heppell *et al.*, 2003) have examined the stock status of loggerhead sea turtles in the waters of the United States, but have been unable to develop any reliable estimates of absolute population size. Due to the difficulty of conducting comprehensive population surveys away from nesting beaches, nesting beach survey data are used to index the status and trends of loggerhead sea turtles (68 FR 53949, Sept. 15, 2003). There are at least five western Atlantic loggerhead subpopulations. These are the south Florida, northern, Dry Tortugas, Florida Panhandle, and Yucatan subpopulations. Genetic analyses conducted at the nesting sites indicate that they are distinct subpopulations (TEWG, 2000). NMFS has concluded that the survival and recovery of each of these nesting subpopulations are critical to the survival and recovery of the species.

While nesting beach data is a useful tool for assessing sea turtle populations, the detection of nesting trends requires consistent data collection methods over long periods of time (USFWS and NMFS, 2003). In 1989, a statewide sea turtle Index Nesting Beach Survey (INBS) program was developed and implemented in Florida, and similar survey programs have been implemented in Georgia, South Carolina, and North Carolina. Although not part of the INBS program, nesting survey data are also available for the Yucatan Peninsula, Mexico (USFWS and NOAA Fisheries 2003). However, the currently available nesting data is still too limited to indicate statistically reliable trends for these subpopulations.

To date, analysis of nesting data from the INBS program through 2003 indicate that there is no discernable trend for the south Florida, northern, or Florida Panhandle subpopulations (68 FR 53949, September 15, 2003). Given the relatively short period of survey effort for the Dry Tortugas subpopulation, no conclusions can be made at this time on the trend of this subpopulation. Survey effort overall at the Yucatan nesting beaches has been inconsistent and no trend can be determined for this subpopulation given the currently available data (68 FR 53949, September 15, 2003). More reliable nesting trend information is available from some south Florida and northern subpopulation nesting beaches that have been surveyed for longer periods of times. Using the information gathered from these select south Florida and northern subpopulation nesting beaches, the Turtle Expert Working Group concluded that the south Florida subpopulation was increasing based on nesting data over the last couple of decades, and that the northern subpopulations was stable or declining (TEWG, 2000).

Similar to other loggerhead nesting beaches, counts at Archie Carr National Wildlife decreased from 2001 through 2004. Preliminary data for 2005 indicates that loggerhead nest counts at Archie Carr increased from the 2004 counts (Florida Fish and Wildlife Conservation Commission, pers. comm., 2005). It should be recognized that this data is still preliminary and further analysis is needed. It is unknown at this time whether the overall nest counts represent an actual decline in the loggerhead subpopulations or not. Loggerhead sea turtles do exhibit a cyclical nesting pattern such that in some years nest counts are high while in others they are low. Natural events, such as the hurricanes of 2004, can also destroy many nests and affect nesting trends since a majority of the nests may be destroyed in any particular year. In addition, since nest counts are a reflection of only one sex and age class in the subpopulation (adult females), using nesting trend data to make conclusions about the status of an entire subpopulation requires making certain assumptions. These are that the current impacts to mature females are experienced to the same degree amongst all age classes regardless of sex and/or that the impacts that led to the current abundance of nesting females are affecting the current immature females to the same extent. There is no current evidence to support or refute these assumptions.

In 2001, NMFS reviewed and updated the stock assessment for loggerhead sea turtles of the western North Atlantic, including information on nesting abundance and trends. The assessment also considered the impact of the U.S. pelagic longline fishery with and without the proposed changes in the Turtle Excluder Device (TED) regulations for the shrimp fishery using a modified population model from Heppell *et al.* (2003) to include new estimates of the duration of life stages and time at maturity and, unlike Heppell *et al.* (2003), also considered sex ratios other than 1:1 (NMFS SEFSC, 2001). A more detailed description of NMFS' assessment can be found in the supporting documents. Given the implementation of TED regulations to allow larger benthic immature and sexually mature loggerhead sea turtles to escape from shrimp trawl gear and given measures to increase pelagic immature survival by 10% have been implemented in the Highly Migratory Species fishery, loggerhead subpopulations in the western Atlantic should experience positive or at least stable growth as loggerheads in the various stage classes mature. These changes are unlikely to be evident in nesting beach censuses for many years given the late age at maturity for loggerhead sea turtles and the normal fluctuations in nesting.

In-water population studies to measure abundance have also been conducted. Maier *et al.* (2004) used fishery-independent trawl data to establish a regional index of abundance. The study was designed to concentrate on loggerhead sea turtles with emphasis on the northern subpopulation, and was conducted along the southeast coast of the United States (Winyah Bay, South Carolina to St. Augustine, FL) from 2000-2003. The loggerhead sea turtle was the dominant turtle collected during the study, with moderate levels of Kemp's ridley and a few green sea turtles encountered during the study. There was no significant difference for loggerheads in Catch per Unit Effort (CPUE) among the years sampled. However, the annual mean CPUE did increase over the study period. The minimum rate of annual population change could not be detected within the four-year sampling period of the project. During the 4 years of the study, a disturbing trend of reduced catch rates in the smaller size classes was noted. Growth could account for a shift to larger size classes, but the observed decline in the percentages of sea turtles in the smallest size classes may indicate a recruitment failure. The pattern

warrants continued observation. Maier *et al.* (2004) found that a comparison of loggerhead catch data from this study with historical values suggests that in-water populations of loggerhead sea turtles along the southeastern United States appear to be larger, possibly an order of magnitude higher than they were 25 years ago. SEAMAP long-term data provides further support for the conclusion of increasing abundance of in-water loggerhead populations with catch rates increasing substantially since the early 1990s (Maier *et al.*, 2004). This type of regional abundance may be useful in examining long-term trends in overall turtle population status on a regional basis, but a number of inherent temporal, spatial, and, perhaps, environmental factors can affect catch rates and need to be recognized in developing a regional index of abundance.

*Comment 21:* One commenter stated that there were two factors requiring the agency to reinstate consultation. The first factor was Dr. Heppell's letter addressing the existing Biological Opinion. The second factor is the statement "Biological resources, in particular sea turtles, have been, are, and will continue to be negatively impacted by a variety of past, present, and future activities. These cumulative impacts may be impacting the recovery of the species, although the extent cannot be quantified" (draft EA, pg. 93). The commenter states that this is new information requiring reinstatement.

*Response:* NMFS received a letter dated March 13, 2005 concerning the December 2004 Opinion on the Atlantic Sea Scallop FMP. The concerns raised in the letter were responded to by NMFS' Southeast Fisheries Science Center and were addressed in the litigation on the December 2004 Opinion. The letter does not trigger reinstatement. The cumulative impacts listed in the EA are not new information and were considered in the December 2004 Opinion. Therefore, that statement in the EA does not trigger reinstatement of the ESA Section 7 consultation on the Scallop Fishery.

#### Classification

The rule has been determined to be significant by the Office of Management and Budget for the purposes of Executive Order 12866.

NMFS prepared an initial regulatory flexibility analysis for the proposed rule, which was described in the classification section of the preamble to the proposed rule. The public comment period ended on June 27, 2005. No comments were received on the economic impacts of the proposed

action; one comment, as described above, was received on the economic impacts of non-preferred alternative 3 (seasonal closure). No changes were made as a result of such comments.

NMFS has prepared a final regulatory flexibility analysis (FRFA) that describes the economic impact this final rule would have on small entities. A description of the action, why it is being considered and the legal basis for this action are contained at the beginning of the preamble, in the **SUMMARY**, and in the FRFA. A summary of the analysis follows:

The fishery affected by this final rule is the mid-Atlantic sea scallop dredge fishery. The action requires all vessels with a Federal Atlantic sea scallop fishery permit, regardless of dredge size of vessel permit category, to modify their dredge gear when fishing south of 41° 9.0' N. latitude, from the shoreline to the outer boundary of the EEZ.

According to Vessel Trip Report Data for 2003, 314 vessels fished in this area from May 1 through November 30. The economic analysis assumes that all 314 vessels are independently owned and operated. All 314 sea scallop dredge vessels are considered small entities.

This final rule does not contain any additional reporting, recordkeeping, or other similar compliance requirements.

The FRFA considered five alternatives. The preferred alternative (PA), non-preferred alternatives 1–3 (NPA 1–3), and the “no action” alternative. The PA, NPA 1–3, and the “no action” alternative were analyzed in the initial regulatory flexibility analysis and summarized in the proposed rule (70 FR 30660).

NMFS selected the preferred alternative in the final rule (required the use of chain mats on all sea scallop dredges in the Mid-Atlantic from May through November 30) because this alternative would provide, with the exception of NPA 3 (seasonal closure of the mid-Atlantic), the most protection to sea turtles. The agency minimized impacts to small entities under this alternative by limiting the rule to the May through November time period and limiting the spatial extent to the mid-Atlantic. While NPA 1 (use of chain mats on all sea scallop dredges in the Mid-Atlantic from May 1 through October 15) may have had slightly reduced economic impacts compared to the PA, NMFS rejected NPA 1 because this alternative would leave sea turtles vulnerable to capture in the dredge bag from October 15 through November 30, a period when sea turtle distribution and sea scallop fishing overlap in the southern part of the fishery. While NPA 2 (use of chain mats on all large sea

scallop dredges in the Mid-Atlantic from May through November 30) may have had slightly reduced economic impacts compared to the PA, NMFS rejected NPA 2 because this alternative would leave sea turtles vulnerable to capture in the dredge bag of smaller dredges operating in this area. Sea turtles have been documented taken in this smaller dredge gear. NMFS rejected NPA 3 (prohibit sea scallop dredge fishing south of 41° 9.0' N. lat. from May 1 through November 30) because of the uncertainty of the extent of the area in which interactions are occurring, the broad extent of the closure, and the potential displacement of effort to other fishing areas. At this time, NMFS does not have sufficient information to further refine NPA 3 to limit the extent of the closure and rejected NPA 3, in part, because of the uncertainty regarding the extent of the area in which interactions between sea turtles and sea scallop dredge gear are occurring. NPA 3 would have had the highest economic impact.

This final rule is consistent with the ESA and other applicable laws.

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**List of Subjects in 50 CFR Parts 222 and 223**

Endangered and threatened species, Exports, Imports.

Dated: August 18, 2006.

**Samuel D. Rauch, III**

*Deputy Assistant Administrator for Regulatory Programs, National Marine Fisheries Service.*

**PART 222—GENERAL ENDANGERED AND THREATENED MARINE SPECIES**

■ For the reasons set forth in the preamble, 50 CFR part 222 and 223 are to be amended as follows:

1. The authority citation for part 222 continues to read as follows:

**Authority:** 16 U.S.C. 1531 *et seq.*; 16 U.S.C. 742a *et seq.*; 31 U.S.C. 9701.

■ 2. In § 222.102, the definition of “Chain mat” and “Dredge or dredge gear” are added in alphabetical order to read as follows:

**§ 222.102 Definitions.**

\* \* \* \* \*

*Chain mat* means a device designed to be installed in a scallop dredge forward of the sweep, as described in 50 CFR 223.206, for the purpose of excluding sea turtles from the dredge.

\* \* \* \* \*

*Dredge or dredge gear*, with respect to the fishery operating under the Atlantic Sea Scallop Fishery Management Plan, means gear consisting of a mouth frame attached to a holding bag constructed of metal rings, or any other modification to this design, that can be or is used in the harvest of sea scallops.

\* \* \* \* \*

**PART 223—THREATENED MARINE AND ANADROMOUS SPECIES**

■ 1. The authority citation for part 223 continues to read as follows:

**Authority:** 16 U.S.C. 1531-1543; subpart B, § 223.12 also issued under 16 U.S.C. 1361 *et seq.*; 16 U.S.C. 5503(d) for § 223.206(d)(9).

■ 2. In § 223.205, paragraph (b)(16) is redesignated as (b)(17); paragraph (b)(15) is revised and new paragraph (b)(16) is added to read as follows:

**§ 223.205 Sea turtles.**

\* \* \* \* \*

(b) \* \* \*

(15) Fail to comply with the restrictions set forth in § 223.206(d)(10) regarding pound net leaders;

(16) Fail to comply with the restrictions set forth in § 223.206(d)(11) regarding sea scallop dredges; or  
\* \* \* \* \*

■ 3. In § 223.206, paragraph (d) introductory text is revised and paragraph (d)(11) is added to read as follows:

**§ 223.206 Exemptions to prohibitions relating to sea turtles.**

\* \* \* \* \*

(d) Exception for incidental taking. The prohibitions against taking in § 223.205(a) do not apply to the incidental take of any member of a threatened species of sea turtle (i.e., a take not directed towards such member) during fishing or scientific research activities, to the extent that those involved are in compliance with all applicable requirements of paragraphs (d)(1) through (d)(11) of this section, or in compliance with the terms and conditions of an incidental take permit issued pursuant to paragraph (a)(2) of this section.

\* \* \* \* \*

(11) Restrictions applicable to sea scallop dredges in the mid-Atlantic—(i) Gear Modification. During the time period of May 1 through November 30, any vessel with a sea scallop dredge and required to have a Federal Atlantic sea scallop fishery permit, regardless of dredge size or vessel permit category, present in waters south of 41° 9.0' N. lat., from the shoreline to the outer boundary of the Exclusive Economic Zone must have on each dredge a chain mat described as follows. The chain mat must be composed of “tickler” (horizontal) chains and “vertical” chains that are evenly spaced and configured in the following manner dependent on the dredge width: Dredges with a frame width of greater than 13 ft (3.96 m) must use 11 vertical and 6 tickler chains; dredges with a frame width of 11 ft to 13 ft (3.35-3.96 m) must use 9 vertical and 5 tickler chains; dredges with a frame width of 10 ft (3.05 m) to less than 11 ft (3.35 m) must use 7 vertical and 4 tickler chains; dredges with a frame width of less than 10 ft (3.05 m) must use 5 vertical and 3 tickler chains. The tickler and vertical chains must be connected to each other with a shackle or link at the intersection point. If a vessel elects to

use a different configuration, the length of each side of the square or rectangle formed by the intersecting chains must be less than or equal to 14 inches (35.5 cm). The chains must be connected to each other with a shackle or link at each intersection point. The measurement

must be taken along the chain, with the chain held taut, and include one shackle or link at the intersection point and all links in the chain up to, but excluding, the shackle or link at the other intersection point.

(ii) Any vessel that harvests sea scallops in or from the waters described

in (d)(11)(i) and that is required to have a Federal Atlantic sea scallop fishery permit must have the chain mat configuration installed on all dredges for the duration of the trip.

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